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an antenna including an open conductor length configured to be inserted into the cavity and provide the response signal, based on the resonant response from a region of the patient closely proximate the antenna, to the MRI system, where the open conductor length includes at least one open ended conductive element; and

a controller coupled to the antenna and configured to receive the response signal to obtain an image of the cavity wall proximate the antenna.

29. (amended) The medical apparatus of claim 28 wherein the controller is configured to calculate antenna location by [[calculating]]processing data to obtain an image of the antenna, antenna position, and antenna orientation.

40. (twice amended) A method of generating an image of a wall of a body cavity in a patient, the method comprising:

inserting an antenna including an open conductor length into the cavity, where the open conductor length includes at least one open ended conductive element;

generating a magnetic field gradient and electromagnetic (EM) radiation external from the patient and transmitting the gradient and EM radiation into the patient;

transmitting a response signal, based on a detected resonant response from a region of the patient closely proximate the antenna, to a magnetic resonance imaging (MRI) processor;

receiving the response signal at the MRI processor; and

obtaining an image of the cavity wall proximate the antenna based on the response signal.

42. (amended) The method of claim 41 wherein calculating antenna location comprises:

[[calculating]]processing data to obtain an image of the antenna.

49. (twice amended) A method of generating an image of a blood vessel wall of a blood vessel in a patient, the method comprising:

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inserting an antenna including an open conductor length into the blood vessel,  
where the open conductor length includes at least one open ended  
conductive element;  
passing the antenna through the blood vessel to a site to be imaged;  
generating a magnetic field gradient and electromagnetic (EM) radiation external  
from the patient and transmitting the gradient and EM radiation into the  
patient;  
transmitting a response signal, based on a detected resonant response from a  
region of the patient closely proximate the antenna, to a magnetic resonance  
imaging (MRI) processor;  
receiving the response signal at the MRI processor;  
and obtaining an image of the blood vessel wall proximate the antenna based on  
the response signal.

50. (twice amended) A medical apparatus for imaging a blood vessel wall of a blood vessel in a patient by interacting with a magnetic resonance imaging (MRI) system which generates a magnetic field gradient and electromagnetic (EM) radiation external from the patient and transmits the gradient and EM radiation into the patient and receives a response signal indicative of a resonant response from the patient, the apparatus comprising:

an antenna configured to be inserted into the blood vessel and passed along the blood vessel to a site to be imaged and to provide the response signal, based on the resonant response from a region of the patient closely proximate the antenna, to the MRI system, the antenna including an open conductor length comprising at least one open ended conductive element; and  
a controller coupled to the antenna and configured to receive the response signal and repeatedly calculate antenna location to obtain an image of the blood vessel wall proximate the antenna.

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51. Cancelled.

52. (amended) The medical apparatus of claim ~~[[51]]~~50 wherein the antenna includes a first elongate conductor having a portion thereof forming the open conductor length, and a second elongate conductor, the first and second elongate conductors extending to a proximal end of the antenna.

54. (twice amended) A medical apparatus for imaging a body cavity wall of a body cavity in a patient by interacting with a magnetic resonance imaging (MRI) system which generates a magnetic field gradient and electromagnetic (EM) radiation external from the patient and transmits the gradient and EM radiation into the patient and receives a response signal indicative of a resonant response from the patient, the apparatus comprising:

an MRI antenna configured to be inserted into the body cavity and passed along the body cavity to a site to be imaged and to provide the response signal, based on the resonant response from a region of the patient closely proximate the antenna, to the MRI system, the antenna including an open conductor length comprising at least one open ended conductive element.

56. (amended) A method of generating an image of a wall of a body cavity in a patient, the method comprising:

inserting a magnetic resonance imaging (MRI) antenna into the body cavity, the antenna including an open conductor length comprising at least one open ended conductive element;

passing the MRI antenna through the body cavity to a site to be imaged; and obtaining an MRI image of the body cavity wall proximate the antenna.

59. (amended) The method of claim 56 wherein obtaining an MRI image comprises: [[calculating]]processing data to obtain an image of the antenna.